VM-Q401A CCTV Color Quad Processor

User's Manual

www.cctvcamerapros.com/cctv-multiplexers

System Features

- Connects up to 4/8 Video Camera
> Adjustable Brightness, Contrast, Saturation, Hue and Sharpness

- High Resolution
> 720X480 60Hz for NTSC
> 720X576 50Hz for PAL

- Various Display Modes
> QUAD Split Mode
> Full Screen Mode
> PIP Screen Mode
> Non-realtime 8 Split Mode
> Dual Split Mode
> Auto Sequence Mode

- High Performance Freeze Function
> Flicker Free Image Capture

- High Performance Zoom Function
> Selectable Zoom Area

- Various Overlay Information
> Camera Title
> Real Time and Date
> Alarm/Loss/Motion Message

- Playback in QUAD or Full Screen Image

- Provide Various Event Input and Detection
> Alarm Input
> Video Loss Detection
> Motion Detection
> 60 Event Report
> Built-in Buzzer and Relay Output

- Remote Control by Infrared Transmitter

Rear Panel Installation

Color Quad system with Audio
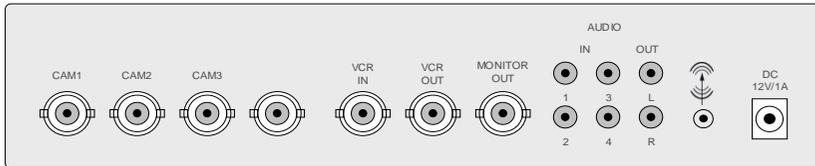
Camera Connection
> Accept 8 composite video inputs from the camera.

Monitor Connection
> Provide 1 composite video output for the main monitor.

VCR OUT Connection
> Provide 1 composite video output for recording in the VCR.

VCR IN Connection
> Accept 1 composite video input for playback from the VCR.

AUDIO IN Connection
> Accept 4 composite audio inputs from the camera.

AUDIO OUT Connection
> Provide 1 composite audio output for the main monitor.

Alarm Connection
> Accept 8 alarm inputs and provide relay out.
> Refer to the Alarm Interface section.
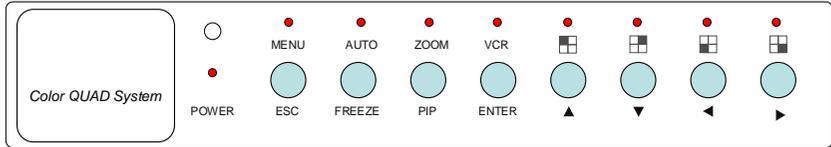
RS-232C Connection
> Provide RS-232C interface to be controlled by HOST.
> Refer to the RS-232C Interface section.

Power Jack Connection
> DC 12V/1A, Center is positive.

Front Key Operation

Color Quad system front panel

MENU / ESC / A/B
    Invoke menu setup / exit / change page A or B
AUTO / FREEZE
    Invoke auto sequence function / freeze function
ZOOM / PIP / MODE
    Invoke 2*ZOOM function / picture in picture / change display mode
VCR / ENTER
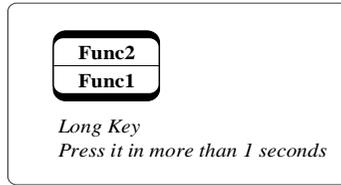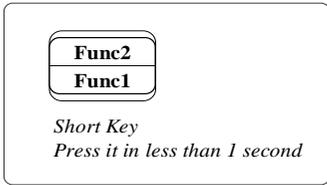   VCR playback / enter menu setup

⊞ / ▲ Channel 1 （ channel 5 ） display / up

⊞ / ▼ Channel 2 （ channel 6 ） display / down

⊞ / ◄ Channel 3 （ channel 7 ） display / left

⊞ / ► Channel 4 （ channel 8 ） display / right

Key Definition

Func2
Func1

Short Key
Press it in less than 1 second

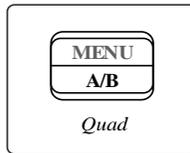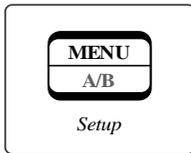| Func2 |
|-------|
| Func1 |

Long Key
Press it in more than 1 seconds

Setup Menu Function / Quad A or B Display

Refer to the Setup Menu Operation section.
Key A/B selects page to be displayed. Page A and B is toggled for each A/B key.

MENU
A/B

Setup

MENU
A/B

Quad

Zoom Function

A zoomed area can be moved by pressing 4 arrow keys when zoom function is invoked. Freeze function can also be invoked while zoom function is invoked.

Release

ZOOM	→	▲ ▼ ◀ ▶	→	VCR	←	▲ ▼ ◀ ▶	→	ZOOM
MODE				ENTER				MODE

*Invoke* *Move* *Zoom* *Move* *Exit*
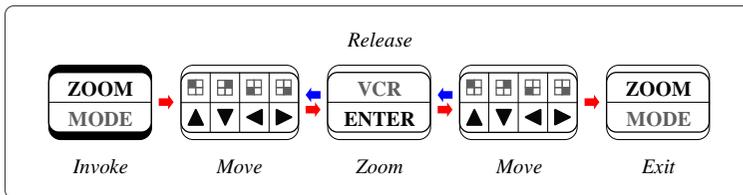
Freeze Function

All displayed channel is frozen when freeze function is invoked. Zoom function can also be invoked while freeze function is invoked.

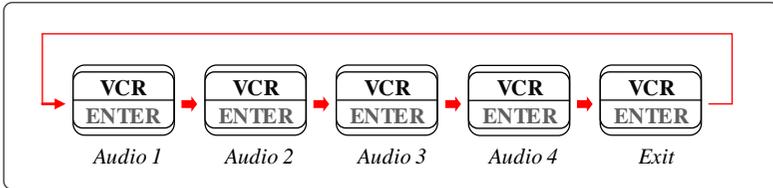| AUTO	→	AUTO
FREEZE		FREEZE

Freeze *Exit*
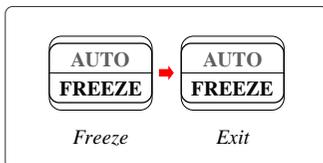
Playback Function

When playback function is running, 4 channel keys select camera to be displayed as single full screen and the MODE key makes quad display mode.

VCR ENTER	▣▣▣▣ ▲ ▼ ◄ ►	**ZOOM** MODE	**VCR** ENTER
Playback	*Single*	*Quad*	*Exit*
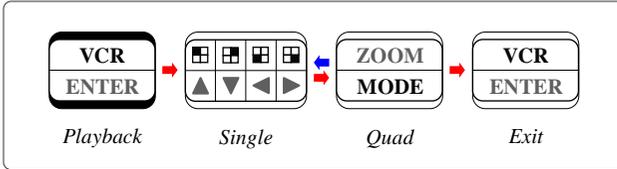
Audio Display (Only with Audio color Quad system)
The display modes are circulated as the following sequence.

VCR ENTER	**VCR** ENTER	**VCR** ENTER	**VCR** ENTER	**VCR** ENTER
Audio 1	*Audio 2*	*Audio 3*	*Audio 4*	*Exit*

Multi Channel Display
The display modes are circulated as the following sequence, Non-realtime 8 Split, 2 Picture-in-Picture, 1 Picture-in-Picture and Dual Split for each MODE key.

ZOOM MODE	**ZOOM** MODE	**ZOOM** MODE	**ZOOM** MODE
8 Split	*2 PIP*	*1PIP*	*Dual Split*
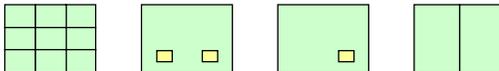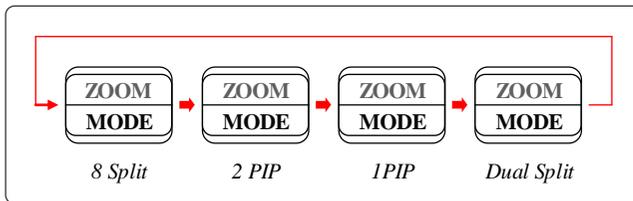
UP and DOWN key selects the channel in 2 Picture-in-Picture, 1 Picture-in-Picture and Dual Split mode, and then the selected channel boundary is blinked. The camera in the selected channel can be chosen by LEFT and RIGHT key

| Freeze | Select Channel | Select Camera | Exit |
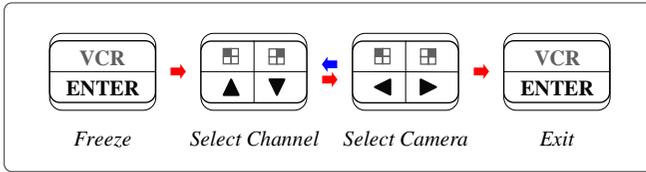
Auto Sequence Display

AUTO key invokes auto sequence display mode and this mode can be maintained until any other display mode is selected.

Auto Sequence

Single Channel Display

Each channel button selects camera to be display as full screen. When pushing same button, camera is toggled to the other page.

| *Camera 1* *Camera 5* | *Camera 2* *Camera 6* | *Camera 3* *Camera 7* | *Camera 4* *Camera 8* |
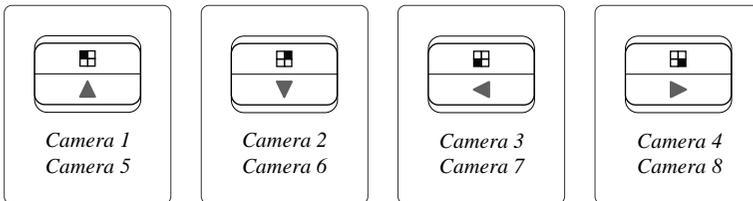
PAL/NTSC System

System can be defined as NTSC or PAL standard with the following method. The first method is to power on with pressing RIGHT or LEFT key and the second one is to define in the setup menu.

Connect Power Cable

PAL

Connect Power Cable

NTSC
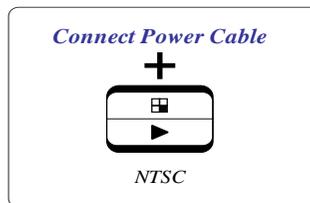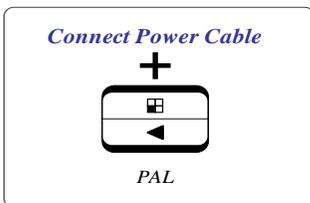
Setup Menu Operation

The system provides a built-in GUI setup screen. For each menu, the key function is described in the lower region to help operation. The following figure shows the structure of GUI menu.
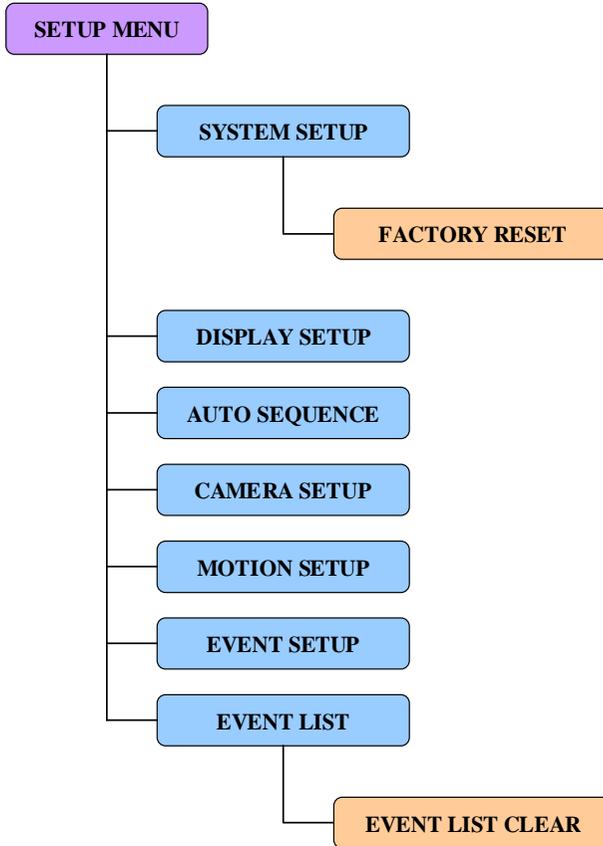
Setup Main menu

```
                    SETUP MAIN MENU


         ┌──────────┐  ┌──────────┐  ┌──────────┐
         │  SYSTEM  │  │ DISPLAY  │  │   AUTO   │
         │  SETUP   │  │  SETUP   │  │ SEQUENCE │
         └──────────┘  └──────────┘  └──────────┘


     ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐
     │ CAMERA │ │ MOTION │ │ EVENT  │ │ EVENT  │
     │ SETUP  │ │ SETUP  │ │ SETUP  │ │ REPORT │
     └────────┘ └────────┘ └────────┘ └────────┘



   ▲▼ ◄ ► SELECT          ENTER           MENU EXIT
```

System Setup Menu

```
                     SYSTEM SETUP


          DATE   : YYYY-MM-DD
                   2004:01:01

          TIME   : HH-MM-SS
                   12-00-00

          SYSTEM FORMAT :  PAL
          SYSTEM ID NUMBER :  01
          KEY LOCK :  OFF

          FACTORY RESET :  NO


     ▲▼ SELECT    ◄ ► ADJUST      ENTER    MENU EXIT
```

Factory Reset Menu

FACTORY RESET

WARNING!
THIS SYSTEM GETS TO LOSE
THE CURRENT SETTING VALUE
AND WILL BE INITIALIZED
WITH FACTORY RESET MODE.

ARE YOU SURE?
YES   NO

◀ ▶ SELECT   ENTER   MENU EXIT

Display Setup Menu

DISPLAY SETUP

DISPLAY ON SCREEN
☑ TITLE ☑ DATE ☑ TIME

SCREEN POSITION X : 0
Y : 0

BORDER LINE COLOR
○ BLACK
◉ GRAY1
○ GRAY2
○ WHITE
○ OFF

▲▼ SELECT   ◀ ▶ ADJUST   MENU EXIT

Camera Setup Menu

CAMERA SETUP

CAMERA : 1

TITLE : CAMERA1

BRIGHTNESS : 0
CONTRAST   : 0
SATURATION : 0
HUE   : 0
SHARPNESS   : 0

MIRRORING   : OFF

▲▼ SELECT   ◄ ► ADJUST   [MENU] EXIT

Auto Sequence Setup Menu

AUTO SEQUENCE DWELL TIME

PAGE A QUAD   : 1 SEC
       CAMERA1 : 1 SEC
       CAMERA2 : 1 SEC
       CAMERA3 : 1 SEC
       CAMERA4 : 1 SEC

PAGE B QUAD   : 1 SEC
       CAMERA5 : 1 SEC
       CAMERA6 : 1 SEC
       CAMERA7 : 1 SEC
       CAMERA8 : 1 SEC

▲▼ SELECT   ◄ ► ADJUST   [MENU] EXIT

Motion Setup Menu

```
                        MOTION SETUP

        CAMERA : 1
                            DETECTION TIME
                              ALWAYS OFF
                                    ON : 11:00:00
                                   OFF : 12:00:00

                            SENSITIVITY :  0
                            VELOCITY    :  0

                            MASKING AREA
                              [X,Y] = ( 0,  0 )


   ▲▼ SELECT    ◄ ► ADJUST              MENU  EXIT
```

Event Setup Menu

```
                        EVENT SETUP


        BUZZER/REPORT ☑CONTROL
```

CHANNEL	1	2	3	4	5	6	7	8
ALARM	√	√	√	√	√	√	√	√
LOSS	√	√	√	√	√	√	√	√
MOTION								

```
        BUZZER HOLD TIME :  05 SEC
        REPORT HOLD TIME :  30 SEC


   ▲ ▼ ◄ ►  SELECT        ENTER  ENABLE        MENU  EXIT
```

Event Report

```
                    EVENT REPORT

                                    1 OF 6 PAGE
        NO   YY-MM-DD    HH:MM:SS    CH   EVENT
        1    04-07-30    16:56:03    1    LOSS
        2    04-07-30    16:56:03    2    ALARM
        3    04-07-30    16:56:03    3    MOTION
        4    04-07-30    16:56:03    4    LOSS
        5    04-07-30    16:56:03    5    ALARM
        6    04-07-30    16:56:03    6    MOTION
        7    04-07-30    16:56:03    7    LOSS
        8    04-07-30    16:56:03    8    MOTION
        9    04-07-30    16:56:03    1    LOSS
        10   04-07-30    16:56:03    2    ALARM

        LIST CLEAR : NO

    ▲▼ SELECT      ◀ ▶   SELECT PAGE          MENU  EXIT
```

Event List Clear Menu

```
                    LIST CLEAR

                      WARNING!
            THIS SYSTEM GETS TO LOSE
            THE CURRENT EVENT LIST
            AND WILL BE INITIALIZED
            WITH BLINK.

                  ARE YOU SURE?
                 YES      NO

    ◀ ▶ SELECT                ENTER     MENU  EXIT
```

POWER